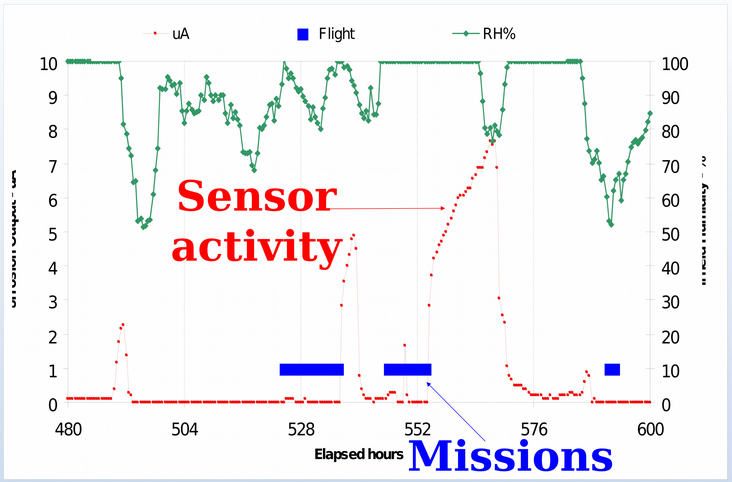
Corrosion Health Monitoring on Aircraft

MAT TP-1 Metals and Ceramics Technology and Performance* and *MAT TP-5 Nondestructive Evaluation For Asset Life Extension and Integrity

Corrosion monitor located in RAAF P-3C empennage



Corrosion monitor data

Objective: Development and evaluation of the use of sensors and data acquisition systems to measure the corrosivity of aircraft in operational environments, and development of tools to optimize maintenance activities. Installation and data collection from corrosion monitoring equipment in a range of aircraft including: P-3C, Seahawk,
F-111, and Boeing 737 and 707.

Payoff: Increased understanding of the corrosion process and the corrosiveness of the environments in which military aircraft operate. The development of a corrosion damage index to assist maintenance planning and scheduling. Provide a foundation for the development of Structural Health Monitoring systems for use in current and future military aircraft.

Participants: DSTO RMC DTA DSTL NAWC & WL

Future Activities: Transitioning of sensor outputs into maintenance and prognostic tools to assess the impact of mission types and mix on aircraft condition.

This award is made to the MAT TP-1 Operating Assignment 019 / MAT TP-5 Operating Assignment 024 collaborative research team for its exceptional scientific contribution to developing and assessing techniques for monitoring corrosion levels using a range of sensor types, and for developing the foundation for Structural Health Monitoring systems to be used in future military aircraft used by TTCP nations.